

## SEQUENCE LISTING

<110> Donovan, Stephen

<120> Clostridial Toxin Derivatives and Methods for Treating Pain

<130> D-2875

<140> US 09/489,667

<141> 2000-01-19

<160> 18

<170> PatentIn version 3.1

<210> 1

<211> 11

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: This is a substance P and is very well known in the art.

<220>

<221> MISC\_FEATURE

<222> (11)..(11)

<223> Xaa at position 11 is Methionine Amide

<400> 1

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Xaa  
1 5 10

<210> 2

<211> 12

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: Precursor to substance P, which is very well known in the art.

<400> 2

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly  
1 5 10

<210> 3

<211> 13

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: This is a precursor to substance P and is very well known in the art.

<400> 3

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly Lys  
1 5 10

<210> 4

<211> 14

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: This is a precursor to substance P and is very well known in the art.

<400> 4

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly Lys Arg  
1 5 10

<210> 5

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is a carboxy-ester synthetic precursor to substance P.

<220>

<221> MISC\_FEATURE

<222> (12)..(12)

<223> Xaa at position 12 is Glycine Methyl Ester

<400> 5

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Xaa  
1 5 10

<210> 6

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is a carboxy-ester synthetic precursor to substance P.

<220>

<221> MISC\_FEATURE

<222> (13)..(13)

<223> Xaa at position 13 is Lysine Methyl Ester

<400> 6

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly Xaa  
1 5 10

<210> 7

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is a carboxy-ester synthetic precursor to substance P.

<220>

<221> MISC\_FEATURE

<222> (14)..(14)

<223> Xaa at position 14 is Arginine Methyl Ester

<400> 7

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly Lys Xaa  
1 5 10

<210> 8

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is a carboxy-ester synthetic precursor to substance P.

<220>

<221> MISC\_FEATURE

<222> (12)..(12)

<223> Xaa at position 12 is Glycine Ethyl Ester

<400> 8

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Xaa  
1 5 10

<210> 9

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is a carboxy-ester synthetic precursor to substance P.

<220>

<221> MISC\_FEATURE

<222> (13)..(13)

<223> Xaa at position 13 is Lysine Ethyl Ester

<400> 9

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly Xaa  
1 5 10

<210> 10

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is a carboxy-ester synthetic precursor to substance P.

<220>

<221> MISC\_FEATURE

<222> (14)..(14)

<223> Xaa at position 14 is Arginine Ethyl Ester

<400> 10

Arg Pro Lys Pro Gln Gln Phe Phe Gly Leu Met Gly Lys Xaa  
1 5 10

<210> 11

<211> 4

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: This is a naturally occurring amino acid thermal peptide fragment derived from substance P.

<400> 11

Arg Pro Lys Pro  
1

<210> 12

<211> 7

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: This is a naturally occurring amino acid thermal peptide fragment derived from substance P.

<400> 12

Arg Pro Lys Pro Gln Gln Phe  
1 5

<210> 13

<211> 9

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: This is a naturally occurring amino acid thermal peptide fragment derived from substance P.

<400> 13

Arg Pro Lys Pro Gln Gln Phe Phe Gly  
1 5

<210> 14

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is an analog of substance P.

<220>

<221> MISC\_FEATURE

<222> (2)..(11)

<223> Xaa at position 2 is D-form of Proline, Xaa at position 7 is D-form of Phenylalanine, Xaa at position 9 is D-form of Tryptophan, Xaa at position 11 Methionine Amide

<400> 14

Arg Xaa Lys Pro Gln Gln Xaa Phe Xaa Leu Xaa  
1 5 10

<210> 15

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is an analog of substance P.

<220>

<221> MISC\_FEATURE

<222> (2)..(9)

<223> Xaa at positon 2 is D-form of Proline, Xaa at position 7 is D-form of Phenylalanine, Xaa at position 9 is D-form of Tryptophan

<400> 15

Arg Xaa Lys Pro Gln Gln Xaa Phe Xaa Leu Met Gly  
1 5 10

<210> 16

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is an analog of substance P.

<220>

<221> MISC\_FEATURE

<222> (2)..(11)

<223> Xaa at position 2 is D-form of Proline, Xaa at position 7 is D-form of Tryptophan, Xaa at position 9 is D-form of Tryptophan, Xaa at position 11 is Methionine Amide

<400> 16

Arg Xaa Lys Pro Gln Gln Xaa Phe Xaa Leu Xaa  
1 5 10

<210> 17

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: This is an analog of substance P.

<220>

<221> MISC\_FEATURE

<222> (2)..(9)

<223> Xaa at position 2 is D-form of Proline, Xaa at position 7 is D-form of Tryptophan, Xaa at position 9 is D-form of Tryptophan

<400> 17

Arg Xaa Lys Pro Gln Gln Xaa Phe Xaa Leu Met Gly  
1 5 10

<210> 18  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: This is an analog of substance P.

<220>  
<221> MISC\_FEATURE  
<222> (11)..(11)  
<223> Xaa at position 11 is Methionine Amide

<400> 18

Arg Pro Cys Pro Gln Cys Phe Tyr Gly Pro Xaa  
1 5 10